



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,200	12/30/2003	Kyung Hee Koh	PIA31221/DBE/US	3418
36872	7590	12/30/2004	EXAMINER	
THE LAW OFFICES OF ANDREW D. FORTNEY, PH.D., P.C. 7257 N. MAPLE AVENUE BLDG. D, 3107 FRESNO, CA 93720			LUU, CHUONG A	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,200

Applicant(s)

KOH, KYUNG HEE

Examiner

Chuong A Luu

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The method of claim 1 only details stacking individual chip scale packs together (to do it in claim 6, manner involves a new method of forming one of the chips which is not claimed or explained, it does not follow the independent claim 1). The Examiner suggests that the dependent claim 6 should be included into the base claim.

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The Rejections

Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mukerji et al. (U.S. 6,300,679 B1).

Claims 1-2 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukerji et al. (U.S. 6,300,679 B1) in view of Ding et al. (U.S. 6,737,300 B2).

Mukerji discloses a semiconductor component with

Respect to claims:

(1) –a- connecting connection terminals (127) of a tape (120) of a conductive adhesive film, which a circuit is patterned to bond pads of the chip by applying an adhesive on the tape;

-b- applying an adhesive (303) an upper surface of the chip folding the tape and attaching the folded tape to the upper surface (343) of the chip (341);

-c- forming a plurality of ball terminals (201) on a lower surface of the tape (120), the ball terminals (201) being electrically connected to the connection terminals of the tape (127);

-d- manufacturing a plurality of individual chip scale packages by repeating the steps –a- to –c- (see column 4, lines 54-67. Figure 5);

-e- laminating the individual chip scale packages, wherein the ball terminals of an upper individual chip scale package is electrically connected to the circuit patterned on the tape which covers lower individual chip scale package (see column 4, lines 54-67. Figure 5);

(2) further comprising the step of mounting the ball terminals of the lowest one of the individual chip scale packages on a patterned circuit (see Figure 4);

(3) wherein, in the step –a-, the chip is attached tape applying a conductive adhesive on the tape (see Figure 3);

(5) wherein, in the step the step -b-, the tape (120) is attached to the chip (341) applying a conductive adhesive (303) to the upper surface of the chip (341) (see Figure 4);

(6) wherein the tape covers only a lower surface the uppermost one of the individual chip scale packages (see Figure 4).

Mukerji teaches the above outlined features but does not explicitly disclose an anisotropic conductive adhesive (as recited in claims 1, 3 and 5). However, Ding discloses a chip scale package by applying an anisotropic conductive adhesive teaching (see column 3, lines 5-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the packaged device of Mukerji (accordance with the teaching of Ding). Doing so would facilitate the manufacture of the semiconductor package device and increase the bonding between the chip and the pads.

Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu
Examiner
December 22, 2004